

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re 35 U.S.C. 371 National Stage Application of )  
PCT Application No. PCT/US2004/021371 )  
MICHAEL H. SCRIPT ET AL. ) Group Art Unit: 2632  
SERIAL NO.: 10/563,185 ) Confirmation No.: 4052  
FILED: 2 July 2004 ) Examiner: Thomas J. Mullen  
FOR: PORTABLE MOTION DETECTOR AND )  
ALARM SYSTEM AND METHOD )

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Sir:

SUGGESTED REQUIREMENT FOR RESTRICTION 37 C.F.R. 1.142(c)

This paper is submitted in response to the recent change in the rules of patent practice, with particular attention to the changes to 37 CFR 1.75 and 1.142.

## REMARKS

Applicants suggest the following requirement for restriction and requests election of Claim Group III, without traverse. If the suggested restriction requirement and election are accepted, the total number of claims to be examined will be fifteen, of which one is independent.

### Claim Groups

Group I: Claims 1-9 and 68-71 -- A movement detecting device comprising an inertial sensor adapted to sense both long wave and vibratory motion, and control circuitry for distinguishing between a long-wave motion event and a vibration motion event;

Group II: Claims 40-53 and 72-75 -- An inertial sensor comprising a piezoelectric transducer having a piezoelectric element, a mass secured for rolling motion via a cantilevered coupling connection to said piezoelectric transducer, a substantial portion of said mass being disposed within a perimeter of said piezoelectric transducer, and said cantilevered coupling connection having a cross-sectional dimension that is smaller than a cross-sectional dimension of said mass to facilitate said rolling motion;

Group III: Claims 76-90 -- A movement detecting device comprising an inertial sensor and adapted to sense multidirectional movement, and control circuitry for distinguishing a direction of movement sensed by said sensor;

Group IV: Claims 91-104 -- A movement detecting device comprising an inertial sensor disposed in a vacuum environment;

Group V: Claims 105-111 -- A self-adhering sensor module comprising a housing, a circuit board in said housing, a battery in said housing providing operative power to said circuit board, adhesive on said housing for attaching said sensor to an object whose motion is to be detected, and a piezoelectric transducer in said housing electrically connected to said

circuit board, said piezoelectric transducer comprising a piezoelectric film and having an unsupported central portion and a perimeter supported by a ring structure in said housing, and an unstable, unbalanced mass on said piezoelectric transducer substantially disposed within said piezoelectric transducer perimeter.

Following is a discussion of (1) the reasons by the claim groups are independent or distinct and (2) the reasons for insisting upon restriction (i.e., serious burden).

**Reasons why Groups I – V are Independent or Distinct**

**Groups I, III, and V Represent Related Products that are Distinct**

Groups I, III, and V qualify for restriction under MPEP 806.05(j) as related products that are each distinct from each other because:

- (A) the inventions as claimed do not overlap in scope, i.e., are mutually exclusive;
- (B) the inventions as claimed are not obvious variants; and
- (C) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect.

Group I (see Claim 1) is distinct from the other claim groups because it uniquely claims a device whose sensor is adapted to sense both long wave and vibratory motion, and which further includes control circuitry for distinguishing between a long-wave motion event and a vibration motion event. The other claim groups do not include these elements. Such elements have not have been obvious from the other claim groups, nor would the other claim groups have been obvious from Group I. Group I is not capable of use together with the other claim groups and has a materially different design, mode of operation, function and effect. Parts (A), (B) and (C) of the distinctiveness test of MPEP 806.05(j) are thus satisfied.

Group III (see Claim 76) is distinct from the other claim groups because it uniquely claims a device whose sensor is adapted to sense multidirectional movement, and which further includes control circuitry for distinguishing a direction of movement sensed by the

sensor. The other claim group do not include these elements. Such elements have not have been obvious from the other claim groups, nor would the other claim groups have been obvious from Group III. Group III is not capable of use together with the other claim groups and has a materially different design, mode of operation, function and effect. Parts (A), (B) and (C) of the distinctiveness test of MPEP 806.05(j) are thus satisfied.

Group V (see Claim 105) is distinct from other claim groups because it uniquely claims a self-adhering sensor module that includes a housing, a circuit board in the housing, a battery in the housing, adhesive on the housing, and a piezoelectric transducer in the housing electrically connected to the circuit board and having a piezoelectric film with an unsupported central portion and a perimeter surrounded by a ring structure in the housing, and an unstable, unbalanced mass on the transducer substantially disposed within the transducer perimeter. The other claim groups do not include these elements. Such elements have not have been obvious from the other claim groups, nor would the other claim groups have been obvious from Group V. Group V is not capable of use together with the other claim groups and has a materially different design, mode of operation, function and effect. Parts (A), (B) and (C) of the distinctiveness test of MPEP 806.05(j) are thus satisfied.

#### **Groups V and II are Related as Combination/Subcombination**

Groups V and II qualify for restriction under MPEP 806.05(c) because they are related as a combination/subcombination that are distinct from each other because:

(A) the combination as claimed (Group V) does not require the particulars of the subcombination as claimed (Group II) for patentability (to show novelty and nonobviousness), and

(B) the subcombination (Group II) can be shown to have utility either by itself or in another materially different combination.

Group V (see Claim 105) claims a self-adhering sensor module that includes a housing, a circuit board in the housing, a battery in the housing, adhesive on the housing, and a piezoelectric transducer in the housing electrically connected to the circuit board and having a piezoelectric film with an unsupported central portion and a perimeter surrounded by a ring structure in the housing, and an unstable, unbalanced mass on the transducer substantially disposed within the transducer perimeter.

Group II (see Claim 40) claims a sensor comprising a piezoelectric transducer element with a mass disposed within the perimeter of the transducer and secured for rolling motion via a cantilever coupling connection having a cross-sectional dimension that is smaller than a cross-sectional dimension of the mass to facilitate the rolling motion.

The combination of Group V satisfies part (A) of the distinctiveness test of MPEP 806.05(c) because it does not depend on the mass characteristics recited in Group II for patentability. The subcombination of Group II satisfies part (B) of the distinctiveness test of MPEP 806.05(c) because it has utility by itself (e.g., as a sensor for many different environments) or in another materially different combination (e.g., in a non-portable environment without a housing or a battery).

**Group I (or III) and IV are Related as Combination/Subcombination**

Group I (or III) and IV qualify for restriction under MPEP 806.05(c) because they are related as a combination/subcombination that are distinct from each other because:

- (A) the combination as claimed (Group I or III) does not require the particulars of the subcombination as claimed (Group IV) for patentability (to show novelty and nonobviousness); and
- (B) the subcombination (Group IV) can be shown to have utility either by itself or in another materially different combination.

Group I (see Claim 1) claims a device whose sensor is adapted to sense both long wave and vibratory motion, and which further includes control circuitry for distinguishing between a long-wave motion event and a vibration motion event. Group I also includes dependent claims that recite a sensor piezoelectric element in a partial vacuum environment.

Group III (see Claim 76) claims a device whose sensor is adapted to sense multidirectional movement, and which further includes control circuitry for distinguishing a direction of movement sensed by the sensor. Group III also includes dependent claims that recite a sensor piezoelectric element in a partial vacuum environment.

Group IV (see Claim 91) claims an inertial sensor disposed in a vacuum.

The combinations of Group I or III satisfy part (A) of the distinctiveness test of MPEP 806.05(c) because they do not depend on the vacuum characteristics recited in Group IV for patentability. The subcombination of Group IV satisfies part (B) of the distinctiveness test of MPEP 806.05(c) because it has utility by itself (e.g., as a vacuum sensor for many different environments) or in another materially different combination (e.g., in an environment other than the devices of Group I or III).

#### **Reasons for Insisting on Restriction**

Restriction is appropriate because the identified claim groups are separately classified in the art and require different fields of search. As such, there would be a serious burden on the examiner if restriction is not required.

Group I (see Claim 1) is separately classified in the art and encompasses the following unique search classes: Class 340 (communications:electrical)/Subclasses 566 (vibration), 517 (selection from a plurality of sensed conditions) and 522 (combined for response).

Group II (see Claim 40) is separately classified in the art and encompasses the following unique search classes: Class 340 (communications:electrical)/Subclasses 545.4 (sensing of electrical parameter (e.g., piezoelectricity or capacitance)) and 545.5 (inertial-type

sensor (e.g., mercury or pendulum switch)); Class 310 (electrical generator or motor structure)/ Subclasses 311 (piezoelectric elements and devices), 324 (diaphragm), 326 (combined with damping structure), 328 (with mechanical energy coupling means), 327 (on back of piezoelectric element) and 338 (force or pressure measuring type).

Group III (see Claim 76) is separately recognized in the art and encompasses the following unique search classes: Class 340 (communications:electrical)/Subclasses 511 (threshold or window (e.g. of analog electrical signal) and 524 (condition position indicator).

Group IV (see Claim 91) is separately recognized in the art and encompasses the following unique search classes: Class 310 (electrical generator or motor structure)/subclasses 337 (underwater type), 340 (encapsulated or coated) and 341 (with temperature modifier and/or gas or vapor atmosphere control).

Group V (see claim 105) is separately recognized in the art and encompasses the following unique search classes: Class 340 (communications:electrical)/Subclasses 545.1 (window or door movement), 545.6 (door, cover or lid for self-contained article (e.g., refrigerator, mailbox, drawer, cabinet or box)), 546 (portable), 691.1 (specified indicator structure) and 693.5 (specified housing); Class 310 (electrical generator or motor structure)/Subclasses 348 (with mounting or support means), 367 (piezoelectric element shape) and 369 (circular disk, ring, or cylinder).

**Conclusion**

If the foregoing suggested requirement for restriction is acceptable, applicants accept the requirement without traverse, elects the invention of Group III, claims 76-90, and cancels, and authorizes the examiner to cancel, claims 1-9, 40-53, 68-75, and 91-111 in response to the requirement.

Respectfully submitted,

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